

**Use Attainability Analysis**

**for**

**WBID 273 Bee Creek**

**Submitted by  
SES Inc.**

**November 14, 2007**

**Submitted to:  
Missouri Department of Natural Resources  
Division of Environmental Quality  
Water Protection Program**

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet A - Water Body Identification**

**I. Water Body Information** (For water body being surveyed)

Water Body Name (from USGS 7.5' quad): Bee Cr.	
Missouri Water Body Identification (WBID) Number:	273
8 digit HUC code: 10240011	County: Buchanan
Upstream Legal Description (from Table H):	T55N R35W SEC 11
Downstream Legal Description (from Table H):	T53N R35W SEC 30
Number of sites evaluated:	13
List all site numbers, listed consequently upstream to downstream:  1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	

**Site Locations Map(s):** Attach a map of the entire segment with assessment sites clearly labeled.  
Mark any other items that may be of interest.

**II. Facility Information** (list all permitted discharges to the water body segment)

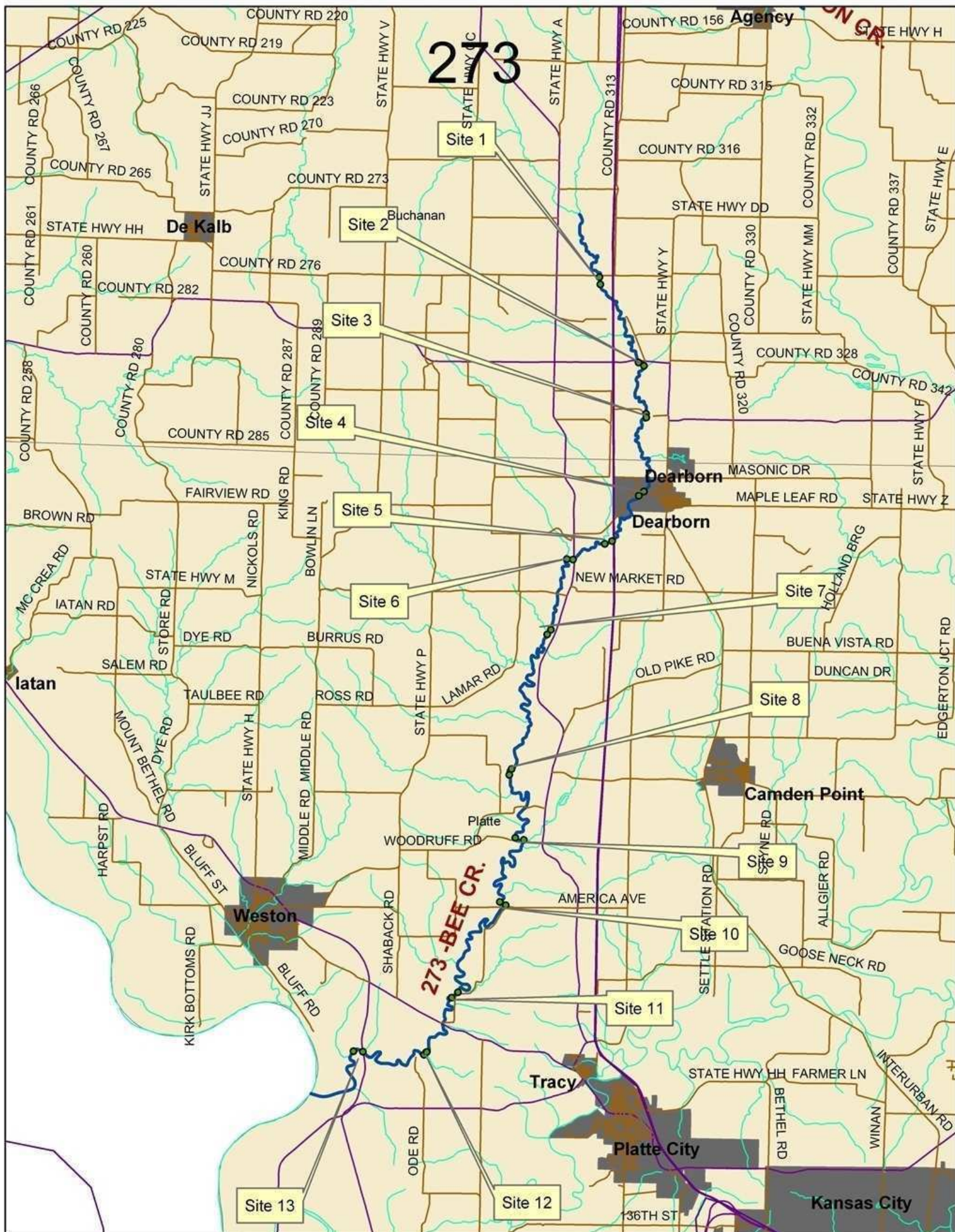
Facility Name(s) and Permit Number(s):  Whispering Pines MHP  MO0118991	
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**III. UAA Surveyor** (please print legibly)

Name of Surveyor: Gilisa Gould	Telephone Number: 913.307.0054
Organization/Employer: SES, Inc	

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

**Signed:** Gilisa Gould **Date:** 11.08.07



WBID # 273  
 Site # 1

**Field Data Sheets For Recreational Use Stream Surveys**

**Data Sheet B-Site Characterization**

Date & Time: 10.9.07 1:30pm	Site Location Description (e.g. road crossing):
Personnel: L. Brown and G. Gould	Taos Rd crossing
Current Weather Conditions: clear	Facility Name: whispering pine s MHP
Weather conditions for the past 10 days:0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0345999	4382413	15 ft
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0346029	4382215	20 ft

**Photos:**

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
18	downstream, T1	19	upstream, T1	20	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
21	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
 Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: <div align="center">none</div>				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: <div align="center">None</div>				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	20	70		

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					Brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.09.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>1</u>  Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0345999</u> UTM Y: <u>4382413</u> +/- <u>4.6</u> (meters) <b>11</b> UTM X: <u>0346029</u> UTM Y: <u>4382215</u> +/- <u>6.1</u> (meters)  Average Stream Width: <u>6.0</u> (meters)      Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown and Gilisa Gould</u>														Dissolved Oxygen					
														Date: <u>10/9/07</u> Time: <u>1:30pm</u>					
														Dissolved Oxygen: <u>6.8</u> (mg/L)					
														Dissolved Oxygen: _____ (% sat)					
														Specific Cond: _____ (µS/cm)					
														Water Temperature: <u>23.7</u> (°C)					

Transect Cross-Section																						
	<b>01</b>		<b>02</b>		<b>03</b>		<b>04</b>		<b>05</b>		<b>06</b>		<b>07</b>		<b>08</b>		<b>09</b>		<b>10</b>		<b>11</b>	
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.4	0.01	0.3	0.01	0.3	0.01	0.6	0.05	0.3	0.10	0.5	0.25	0.7	0.01	0.6	0.15	0.4	0.01	0.5	0.05	0.4	0.01
2	0.8	0.05	0.6	0.01	0.6	0.05	1.2	0.05	0.6	0.20	1.0	0.65	1.4	0.10	1.2	0.25	0.8	0.05	1.0	0.10	0.8	0.05
3	1.2	0.10	0.9	0.05	0.9	0.05	1.8	0.05	0.9	0.20	1.5	0.90	2.1	0.25	1.8	0.15	1.2	0.05	1.5	0.15	1.2	0.15
4	1.6	0.10	1.2	0.10	1.2	0.10	2.4	0.05	1.2	0.15	2.0	0.95	2.8	0.20	2.4	0.10	1.6	0.01	2.0	0.20	1.6	0.20
5	2.0	0.10	1.5	0.10	1.5	0.10	3.0	0.10	1.5	0.20	2.5	0.80	3.5	0.10	3.0	0.10	2.0	0.10	2.5	0.25	2.0	0.25
6	2.4	0.05	1.8	0.10	1.8	0.10	3.6	0.10	1.8	0.20	3.0	0.60	4.2	0.15	3.6	0.05	2.4	0.10	3.0	0.30	2.4	0.20
7	2.8	0.05	2.1	0.10	2.1	0.10	4.2	0.10	2.1	0.20	3.5	0.55	4.9	0.10	4.2	0.10	2.8	0.15	3.5	0.25	2.8	0.15
8	3.2	0.01	2.4	0.05	2.4	0.05	4.8	0.05	2.4	0.05	4.0	0.30	5.6	0.05	4.8	0.10	3.2	0.15	4.0	0.15	3.2	0.10
9	3.6	0.01	2.7	0.10	2.7	0.01	5.4	0.01	2.7	0.05	4.5	0.25	6.3	0.05	5.4	0.10	3.6	0.15	4.5	0.05	3.6	0.01
<b>Right Bank</b>	4.0	0.00	3.0	0.00	3.0	0.00	6.0	0.00	3.0	0.00	5.0	0.00	7.0	0.00	6.0	0.00	4.0	0.00	5.0	0.00	4.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	riffle		riffle		riffle		riffle		run		pool		pool		pool		riffle		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07



WBID # 273  
 Site # 2

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.9.07 2:35	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	116 Hwy Rd crossing
Current Weather Conditions: clear	Facility Name: whispering pine s MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347097	4380031	21 ft
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347237	4379934	35 ft

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
22	upstream	23	downstream	24	downstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
25	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				



WBID # 273  
 Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	20	70		

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					Brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.23.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>2</u>  Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0347047</u> UTM Y: <u>4380031</u> +/- <u>6.4</u> (meters) <b>11</b> UTM X: <u>0347237</u> UTM Y: <u>4379934</u> +/- <u>10.7</u> (meters)  Average Stream Width: <u>6</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.19.07</u> Time: <u>2:35</u>  Dissolved Oxygen: <u>8</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>20.5</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.10	0.6	0.05	0.4	0.01	0.6	0.05	0.3	0.01	0.5	0.05	0.2	0.10	0.4	0.15	0.3	0.15	0.5	0.10	0.3	0.05
2	1.0	0.15	1.2	0.30	0.8	0.05	1.2	0.20	0.6	0.05	1.0	0.10	0.4	0.25	0.8	0.25	0.6	0.30	1.0	0.30	0.6	0.25
3	1.5	0.15	1.8	0.25	1.2	0.05	1.8	0.35	0.9	0.10	1.5	0.10	0.6	0.25	1.2	0.30	0.9	0.40	1.5	0.65	0.9	0.50
4	2.0	0.05	2.4	0.15	1.6	0.01	2.4	0.30	1.2	0.15	2.0	0.10	0.8	0.20	1.6	0.25	1.2	0.50	2.0	0.65	1.2	0.50
5	2.5	0.05	3.0	0.10	2.0	0.05	3.0	0.30	1.5	0.20	2.5	0.05	1.0	0.15	2.0	0.30	1.5	0.40	2.5	0.65	1.5	0.50
6	3.0	0.05	3.6	0.05	2.4	0.15	3.6	0.25	1.8	0.20	3.0	0.05	1.2	0.15	2.4	0.25	1.8	0.20	3.0	0.60	1.8	0.45
7	3.5	0.05	4.2	0.15	2.8	0.15	4.2	0.20	2.1	0.15	3.5	0.05	1.4	0.10	2.8	0.20	2.1	0.25	3.5	0.55	2.1	0.40
8	4.0	0.05	4.8	0.10	3.2	0.05	4.8	0.05	2.4	0.10	4.0	0.10	1.6	0.05	3.2	0.10	2.4	0.20	4.0	0.20	2.4	0.15
9	4.5	0.01	5.4	0.01	3.6	0.01	5.4	0.01	2.7	0.05	4.5	0.10	1.8	0.05	3.6	0.05	2.7	0.05	4.5	0.05	2.7	0.05
<b>Right Bank</b>	5.0	0.00	6.0	0.00	4.0	0.00	6.0	0.00	3.0	0.00	5.0	0.00	2.0	0.00	4.0	0.00	3.0	0.00	5.0	0.00	3.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	riffle		pool		riffle		riffle		run		run		run		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 3

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.10.07 9:30am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	south of 116 rd crossing
Current Weather Conditions: clear	Facility Name: whispering pine s MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347373	4378605	14 ft
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347309	4378495	23 ft

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
38	upstream	39	downstream	40	downstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
41	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: corn field				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand 90	% Silt	% Mud/Clay 10	% Bedrock
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>3</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0347373</u> UTM Y: <u>4378605</u> +/- <u>6.4</u> (meters) <b>11</b> UTM X: <u>0347309</u> UTM Y: <u>4378495</u> +/- <u>10.7</u> (meters)  Average Stream Width: <u>5</u> (meters)      Length of Survey Segment: <u>100</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>9:30</u>  Dissolved Oxygen: <u>16.4</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>16.7</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.50	0.5	0.20	0.5	0.30	0.5	0.20	0.5	0.10	0.5	0.20	0.5	0.25	0.5	0.10	0.5	0.35	0.5	0.35	0.5	0.10
2	1.0	0.60	1.0	0.35	1.0	0.50	1.0	0.50	1.0	0.25	1.0	0.35	1.0	0.35	1.0	0.40	1.0	0.30	1.0	0.30	1.0	0.30
3	1.5	0.70	1.5	0.60	1.5	0.55	1.5	0.50	1.5	0.55	1.5	0.45	1.5	0.35	1.5	0.50	1.5	0.30	1.5	0.30	1.5	0.55
4	2.0	0.70	2.0	0.75	2.0	0.55	2.0	0.50	2.0	0.70	2.0	0.45	2.0	0.40	2.0	0.50	2.0	0.25	2.0	0.25	2.0	0.65
5	2.5	0.60	2.5	0.75	2.5	0.60	2.5	0.50	2.5	0.75	2.5	0.40	2.5	0.35	2.5	0.45	2.5	0.15	2.5	0.15	2.5	0.60
6	3.0	0.50	3.0	0.80	3.0	0.60	3.0	0.45	3.0	0.65	3.0	0.40	3.0	0.30	3.0	0.45	3.0	0.15	3.0	0.35	3.0	0.35
7	3.5	0.55	3.5	0.75	3.5	0.60	3.5	0.40	3.5	0.50	3.5	0.40	3.5	0.30	3.5	0.40	3.5	0.10	3.5	0.15	3.5	0.30
8	4.0	0.50	4.0	0.40	4.0	0.40	4.0	0.20	4.0	0.40	4.0	0.30	4.0	0.30	4.0	0.35	4.0	0.15	4.0	0.15	4.0	0.20
9	4.5	0.50	4.5	0.20	4.5	0.20	4.5	0.05	4.5	0.30	4.5	0.20	4.5	0.20	4.5	0.20	4.5	0.15	4.5	0.10	4.5	0.20
Right Bank	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.01.07



WBID # 273  
 Site # 4

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.9.07 3:15pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	Hwy Z
Current Weather Conditions: clear	Facility Name: whispering pine s MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347251	4376435	16 ft
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0347104	4376314	20 ft

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
26	downstream, T1	27	upstream, T1	28	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
29	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
 Site # 4

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
		25	25	50	

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 4

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.09.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>4</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0347251</u> UTM Y: <u>4376435</u> +/- <u>4.9</u> (meters) <b>11</b> UTM X: <u>0347104</u> UTM Y: <u>4376314</u> +/- <u>6.1</u> (meters)  Average Stream Width: <u>6</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>																Dissolved Oxygen						
Date: <u>10.9.07</u> Time: <u>3:15pm</u>  Dissolved Oxygen: <u>6.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>27.7</u> (°C)																						
Transect Cross-Section																						
Station	<b>01</b>		<b>02</b>		<b>03</b>		<b>04</b>		<b>05</b>		<b>06</b>		<b>07</b>		<b>08</b>		<b>09</b>		<b>10</b>		<b>11</b>	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.01	0.5	0.01	0.6	0.05	0.5	0.05	0.6	0.15	0.7	0.15	0.6	0.05	0.4	0.01	0.3	0.05	0.3	0.10	0.3	0.01
2	1.0	0.05	1.0	0.05	1.2	0.10	1.0	0.40	1.2	0.50	1.4	0.45	1.2	0.10	0.8	0.05	0.6	0.45	0.6	0.20	0.6	0.25
3	1.5	0.10	1.5	0.10	1.8	0.25	1.5	0.35	1.8	0.70	2.1	0.40	1.8	0.30	1.2	0.20	0.9	0.50	0.9	0.25	0.9	0.35
4	2.0	0.15	2.0	0.20	2.4	0.50	2.0	0.35	2.4	0.60	2.8	0.40	2.4	0.30	1.6	0.25	1.2	0.75	1.2	0.40	1.2	0.50
5	2.5	0.15	2.5	0.25	3.0	0.65	2.5	0.25	3.0	0.60	3.5	0.35	3.0	0.30	2.0	0.20	1.5	0.80	1.5	0.30	1.5	0.55
6	3.0	0.25	3.0	0.15	3.6	0.70	3.0	0.25	3.6	0.65	4.2	0.45	3.6	0.20	2.4	0.15	1.8	0.75	1.8	0.40	1.8	0.55
7	3.5	0.30	3.5	0.10	4.2	0.50	3.5	0.30	4.2	0.55	4.9	0.30	4.2	0.15	2.8	0.10	2.1	0.70	2.1	0.40	2.1	0.50
8	4.0	0.25	4.0	0.10	4.8	0.30	4.0	0.30	4.8	0.30	5.6	0.15	4.8	0.10	3.2	0.05	2.4	0.45	2.4	0.40	2.4	0.40
9	4.5	0.15	4.5	0.05	5.4	0.10	4.5	0.25	5.4	0.05	6.3	0.05	5.4	0.05	3.6	0.05	2.7	0.10	2.7	0.35	2.7	0.30
<b>Right Bank</b>	5.0	0.00	5.0	0.00	6.0	0.00	5.0	0.00	6.0	0.00	7.0	0.00	6.0	0.00	4.0	0.00	3.0	0.00	3.0	0.00	3.0	0.00
Feature Type (riffle, run, or pool)	pool		riffle		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 5

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.9.07 4:10pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	29 Hwy crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0346357	4375045	5.18 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0346148	4374971	9.14 meters

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
30	downstream	31	upstream	32	downstream
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
33	upstream				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
 Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
		20	30	50	

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.09.07

Organization: SES, Inc. Position: field team leader



# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>5</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0346357</u> UTM Y: <u>4375045</u> +/- <u>5.18</u> (meters) <b>11</b> UTM X: <u>0346148</u> UTM Y: <u>4374471</u> +/- <u>9.14</u> (meters)  Average Stream Width: <u>6</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>														Dissolved Oxygen								
														Date: <u>10.9.07</u> Time: <u>4:00pm</u>  Dissolved Oxygen: <u>7.3</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>25.7</u> (°C)								
Transect Cross-Section																						
01		02		03		04		05		06		07		08		09		10		11		
Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.4	0.05	0.5	0.01	0.5	0.05	0.5	0.10	0.6	0.05	0.5	0.10	0.2	0.05	0.4	0.15	0.3	0.05	0.6	0.01	0.6	0.20
2	0.8	0.10	1.0	0.05	1.0	0.15	1.0	0.40	1.2	0.25	1.0	0.45	0.4	0.15	0.8	0.05	0.6	0.20	1.2	0.01	1.2	0.20
3	1.2	0.20	1.5	0.15	1.5	0.10	1.5	0.50	1.8	0.25	1.5	0.40	0.6	0.15	1.2	0.15	0.9	0.20	1.8	0.05	1.8	0.30
4	1.6	0.20	2.0	0.15	2.0	0.15	2.0	0.60	2.4	0.20	2.0	0.50	0.8	0.15	1.6	0.05	1.2	0.15	2.4	0.15	2.4	0.20
5	2.0	0.25	2.5	0.20	2.5	0.20	2.5	0.45	3.0	0.20	2.5	0.55	1.0	0.15	2.0	0.10	1.5	0.10	3.0	0.20	3.0	0.20
6	2.4	0.20	3.0	0.20	3.0	0.20	3.0	0.35	3.6	0.15	3.0	0.55	1.2	0.15	2.4	0.10	1.8	0.10	3.6	0.20	3.6	0.20
7	2.8	0.10	3.5	0.25	3.5	0.15	3.5	0.30	4.2	0.15	3.5	0.40	1.4	0.10	2.8	0.05	2.1	0.05	4.2	0.25	4.2	0.15
8	3.2	0.15	4.0	0.15	4.0	0.15	4.0	0.20	4.8	0.15	4.0	0.20	1.6	0.15	3.2	0.05	2.4	0.05	4.8	0.30	4.8	0.20
9	3.6	0.05	4.5	0.05	4.5	0.15	4.5	0.15	5.4	0.10	4.5	0.10	1.8	0.05	3.6	0.01	2.7	0.01	5.4	0.20	5.4	0.10
Right Bank	4.0	0.00	5.0	0.00	5.0	0.00	5.0	0.00	6.0	0.00	5.0	0.00	2.0	0.00	4.0	0.00	3.0	0.00	6.0	0.00	6.0	0.00
Feature Type	pool		pool		pool		pool		pool		pool		run		riffle		run		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 6

**Field Data Sheets For Recreational Use Stream Surveys**

**Data Sheet B-Site Characterization**

Date & Time: 10.9.07 5:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	Hwy 371 crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0345264	4374529	6.1 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0345111	4374543	5.8 meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
34	downstream, T1	35	upstream, T1	36	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
37	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
 Site # 6

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
		25	25	50	

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 6

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.09.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>6</u>  Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0345264</u> UTM Y: <u>4374529</u> +/- <u>6.1</u> (meters) <b>11</b> UTM X: <u>0345111</u> UTM Y: <u>4374543</u> +/- <u>5.8</u> (meters)  Average Stream Width: <u>6</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.9.07</u> Time: <u>5:00pm</u>  Dissolved Oxygen: <u>6.2</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>23.6</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.4	0.10	0.6	0.10	0.6	0.05	0.7	0.05	0.6	0.01	0.6	0.05	0.4	0.10	0.5	0.05	0.4	0.05	0.6	0.50	0.5	0.01
2	0.8	0.15	1.2	0.40	1.2	0.15	1.4	0.30	1.2	0.10	1.2	0.15	0.8	0.25	1.0	0.15	0.8	0.20	1.2	0.20	1.0	0.01
3	1.2	0.10	1.8	0.40	1.8	0.30	2.1	0.60	1.8	0.10	1.8	0.15	1.2	0.30	1.5	0.10	1.2	0.25	1.8	0.20	1.5	0.05
4	1.6	0.10	2.4	0.10	2.4	0.40	2.8	0.50	2.4	0.10	2.4	0.10	1.6	0.30	2.0	0.15	1.6	0.40	2.4	0.35	2.0	0.10
5	2.0	0.30	3.0	0.15	3.0	0.35	3.5	0.55	3.0	0.10	3.0	0.10	2.0	0.30	2.5	0.10	2.0	0.40	3.0	0.40	2.5	0.10
6	2.4	0.40	3.6	0.30	3.6	0.30	4.2	0.50	3.6	0.15	3.6	0.15	2.4	0.25	3.0	0.15	2.4	0.35	3.6	0.35	3.0	0.20
7	2.8	0.30	4.2	0.40	4.2	0.30	4.9	0.40	4.2	0.15	4.2	0.15	2.8	0.20	3.5	0.20	2.8	0.35	4.2	0.40	3.5	0.20
8	3.2	0.15	4.8	0.30	4.8	0.30	5.6	0.25	4.8	0.15	4.8	0.10	3.2	0.20	4.0	0.15	3.2	0.30	4.8	0.15	4.0	0.20
9	3.6	0.15	5.4	0.20	5.4	0.15	6.3	0.10	5.4	0.10	5.4	0.10	3.6	0.15	4.5	0.05	3.6	0.30	5.4	0.05	4.5	0.10
Right Bank	4.0	0.00	6.0	0.00	6.0	0.00	7.0	0.00	6.0	0.00	6.0	0.00	4.0	0.00	5.0	0.00	4.0	0.00	6.0	0.00	5.0	0.00
Feature Type	pool		pool		pool		pool		pool		riffle		pool		riffle		pool		pool		riffle	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 7

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.10.07 10:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	Hwy 371 crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0344652	4372568	5.5 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0344545	4372436	4.9 meters

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
42	downstream, T1	43	upstream, T1	44	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
45	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand 50	% Silt 50	% Mud/Clay	% Bedrock
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:



WBID # 273  
Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>7</u>  Estimated Channel Incision: <u>5.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0344652</u> UTM Y: <u>4372568</u> +/- <u>5.5</u> (meters) <b>11</b> UTM X: <u>0344545</u> UTM Y: <u>4372436</u> +/- <u>4.9</u> (meters)  Average Stream Width: <u>4</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>10:30</u>  Dissolved Oxygen: <u>15.2</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>18.1</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.05	0.3	0.10	0.4	0.05	0.4	0.05	0.2	0.05	0.6	0.10	0.6	0.05	0.6	0.10	0.6	0.15	0.5	0.20	0.5	0.05
2	1.0	0.05	0.6	0.15	0.8	0.10	0.8	0.30	0.4	0.20	1.2	0.35	1.2	0.10	1.2	0.30	1.2	0.30	1.0	0.60	1.0	0.20
3	1.5	0.05	0.9	0.20	1.2	0.30	1.2	0.50	0.6	0.20	1.8	0.20	1.8	0.30	1.8	0.35	1.8	0.90	1.5	0.50	1.5	0.25
4	2.0	0.01	1.2	0.25	1.6	0.30	1.6	0.60	0.8	0.30	2.4	0.10	2.4	0.35	2.4	0.20	2.4	0.95	2.0	0.35	2.0	0.35
5	2.5	0.05	1.5	0.25	2.0	0.30	2.0	0.65	1.0	0.30	3.0	0.20	3.0	0.50	3.0	0.25	3.0	0.80	2.5	0.35	2.5	0.35
6	3.0	0.05	1.8	0.15	2.4	0.15	2.4	0.50	1.2	0.30	3.6	0.20	3.6	0.60	3.6	0.30	3.6	0.60	3.0	0.25	3.0	0.40
7	3.5	0.10	2.1	0.10	2.8	0.10	2.8	0.45	1.4	0.25	4.2	0.20	4.2	0.45	4.2	0.30	4.2	0.65	3.5	0.20	3.5	0.45
8	4.0	0.15	2.4	0.05	3.2	0.10	3.2	0.25	1.6	0.15	4.8	0.20	4.8	0.20	4.8	0.20	4.8	0.40	4.0	0.20	4.0	0.30
9	4.5	0.10	2.7	0.01	3.6	0.05	3.6	0.15	1.8	0.10	5.4	0.05	5.4	0.05	5.4	0.10	5.4	0.25	4.5	0.05	4.5	0.10
<b>Right Bank</b>	5.0	0.00	3.0	0.00	4.0	0.00	4.0	0.00	2.0	0.00	6.0	0.00	6.0	0.00	6.0	0.00	6.0	0.00	5.0	0.00	5.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 8

**Field Data Sheets For Recreational Use Stream Surveys**

**Data Sheet B-Site Characterization**

Date & Time: 10.10.07	11:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould		downstream of 371 crossing point
Current Weather Conditions: clear		Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96		Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

**Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343555	4368654	7.6 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343485	4368514	3 meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
46	downstream, T1	47	upstream, T1	48	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
49	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
Site # 8

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: corn field				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand 50	% Silt 20	% Mud/Clay 30	% Bedrock
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 8

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>8</u>  Estimated Channel Incision: <u>5.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0343555</u> UTM Y: <u>4372568</u> +/- <u>7.62</u> (meters) <b>11</b> UTM X: <u>0343485</u> UTM Y: <u>4368514</u> +/- <u>3.48</u> (meters)  Average Stream Width: <u>6</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>11:30</u>  Dissolved Oxygen: <u>6.3</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>23.5</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.05	0.7	0.15	0.7	0.05	0.7	0.10	0.7	0.10	0.8	0.01	0.7	0.05	0.7	0.10	0.7	0.10	0.6	0.05	0.5	0.10
2	1.0	0.10	1.4	0.35	1.4	0.10	1.4	0.40	1.4	0.30	1.6	0.05	1.4	0.20	1.4	0.20	1.4	0.35	1.2	0.20	1.0	0.50
3	1.5	0.10	2.1	0.40	2.1	0.30	2.1	0.40	2.1	0.50	2.4	0.20	2.1	0.40	2.1	0.30	2.1	0.35	1.8	0.25	1.5	0.50
4	2.0	0.20	2.8	0.75	2.8	0.30	2.8	0.50	2.8	0.80	3.2	0.25	2.8	0.60	2.8	0.45	2.8	0.50	2.4	0.20	2.0	0.65
5	2.5	0.10	3.5	0.95	3.5	0.30	3.5	0.50	3.5	0.75	4.0	0.30	3.5	0.80	3.5	0.45	3.5	0.45	3.0	0.30	2.5	0.50
6	3.0	0.15	4.2	0.95	4.2	0.15	4.2	0.50	4.2	0.75	4.8	0.25	4.2	0.60	4.2	0.40	4.2	0.40	3.6	0.45	3.0	0.30
7	3.5	0.15	4.9	0.85	4.9	0.10	4.9	0.50	4.9	0.60	5.6	0.20	4.9	0.50	4.9	0.35	4.9	0.35	4.2	0.45	3.5	0.20
8	4.0	0.15	5.6	0.75	5.6	0.10	5.6	0.35	5.6	0.20	6.4	0.10	5.6	0.30	5.6	0.20	5.6	0.20	4.8	0.35	4.0	0.10
9	4.5	0.15	6.3	0.55	6.3	0.05	6.3	0.10	6.3	0.01	7.2	0.01	6.3	0.01	6.3	0.01	6.3	0.01	5.4	0.20	4.5	0.05
<b>Right Bank</b>	5.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	8.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	6.0	0.00	5.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 9

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.10.07 12:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	woodruff Rd access
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, in Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343656	4366752	5.18 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343890	4366693	5.18 meters

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
50	downstream, T1	51	upstream, T1	52	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
53	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				



WBID # 273  
Site # 9

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

none

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering

comments/other:

none

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	60	20	10	

**Aquatic Vegetation:**

none

**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 9

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>9</u>  Estimated Channel Incision: <u>6.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0343656</u> UTM Y: <u>4366752</u> +/- <u>5.18</u> (meters) <b>11</b> UTM X: <u>0343890</u> UTM Y: <u>4366693</u> +/- <u>5.18</u> (meters)  Average Stream Width: <u>8</u> (meters)      Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>12:30</u>  Dissolved Oxygen: <u>11.4</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>23.4</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.8	0.05	0.8	0.01	0.8	0.05	0.8	0.05	0.7	0.05	0.9	0.01	0.8	0.10	0.7	0.05	0.6	0.01	1.0	0.40	0.9	0.35
2	1.6	0.05	1.6	0.15	1.6	0.20	1.6	0.40	1.4	0.20	1.8	0.05	1.6	0.40	1.4	0.75	1.2	0.10	2.0	0.50	1.8	0.70
3	2.4	0.05	2.4	0.25	2.4	0.35	2.4	0.55	2.1	0.35	2.7	0.05	2.4	0.40	2.1	0.35	1.8	0.20	3.0	0.00	2.7	0.90
4	3.2	0.15	3.2	0.30	3.2	0.70	3.2	0.45	2.8	0.60	3.6	0.01	3.2	0.30	2.8	0.40	2.4	0.25	4.0	0.45	3.6	1.00
5	4.0	0.10	4.0	0.30	4.0	0.85	4.0	0.40	3.5	0.60	4.5	0.05	4.0	0.15	3.5	0.50	3.0	0.20	5.0	0.85	4.5	1.00
6	4.8	0.10	4.8	0.45	4.8	0.55	4.8	0.35	4.2	0.60	5.4	0.10	4.8	0.15	4.2	0.50	3.6	0.30	6.0	1.00	5.4	0.95
7	5.6	0.30	5.6	0.40	5.6	0.15	5.6	0.40	4.9	0.50	6.3	0.15	5.6	0.10	4.9	0.60	4.2	0.10	7.0	1.00	6.3	0.95
8	6.4	0.25	6.4	0.20	6.4	0.10	6.4	0.35	5.6	0.30	7.2	0.30	6.4	0.05	5.6	0.55	4.8	0.10	8.0	0.95	7.2	0.75
9	7.2	0.05	7.2	0.05	7.2	0.05	7.2	0.10	6.3	0.30	8.1	0.30	7.2	0.01	6.3	0.30	5.4	0.05	9.0	0.65	8.1	0.40
<b>Right Bank</b>	8.0	0.00	8.0	0.00	8.0	0.00	8.0	0.00	7.0	0.00	9.0	0.00	8.0	0.00	7.0	0.00	6.0	0.00	10.0	0.00	9.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 10

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.10.07      2:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	Bee creek blv. Crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343229	4364969	3.65 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0343384	4364876	2.5 meters

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
54	upstream T11	55	Downstream T11	56	downstream T1
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
57	upstream T1				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
 Site # 10

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input checked="" type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt 20	% Mud/Clay 10	% Bedrock 60
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 10

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>10</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0343229</u> UTM Y: <u>4364969</u> +/- <u>3.65</u> (meters) <b>11</b> UTM X: <u>0343384</u> UTM Y: <u>4364876</u> +/- <u>2.5</u> (meters)  Average Stream Width: <u>9</u> (meters)      Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>2:00pm</u>  Dissolved Oxygen: <u>10.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>24.9</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.7	0.55	0.9	0.90	0.9	0.80	1.0	0.80	0.9	0.90	0.9	0.85	0.9	0.95	1.0	0.95	0.9	0.95	1.0	0.10	0.8	0.01
2	1.4	0.60	1.8	0.90	1.8	0.90	2.0	0.80	1.8	0.90	1.8	0.90	1.8	1.00	2.0	1.00	1.8	1.00	2.0	0.95	1.6	0.01
3	2.1	0.85	2.7	1.00	2.7	1.00	3.0	0.90	2.7	1.00	2.7	0.95	2.7	1.00	3.0	1.00	2.7	1.00	3.0	0.95	2.4	0.15
4	2.8	0.85	3.6	1.00	3.6	1.00	4.0	0.95	3.6	1.00	3.6	0.95	3.6	1.00	4.0	1.00	3.6	1.00	4.0	0.80	3.2	0.15
5	3.5	0.95	4.5	1.00	4.5	1.00	5.0	1.00	4.5	1.00	4.5	1.00	4.5	1.00	5.0	1.00	4.5	1.00	5.0	0.85	4.0	0.10
6	4.2	0.85	5.4	1.00	5.4	1.00	6.0	1.00	5.4	1.00	5.4	1.00	5.4	1.00	6.0	1.00	5.4	1.00	6.0	0.80	4.8	0.10
7	4.9	0.10	6.3	1.00	6.3	0.95	7.0	0.95	6.3	0.90	6.3	1.00	6.3	1.00	7.0	1.00	6.3	1.00	7.0	0.80	5.6	0.10
8	5.6	0.60	7.2	1.00	7.2	0.95	8.0	0.90	7.2	0.95	7.2	0.95	7.2	1.00	8.0	0.95	7.2	1.00	8.0	0.60	6.4	0.10
9	6.3	0.55	8.1	1.00	8.1	0.95	9.0	0.80	8.1	0.90	8.1	0.95	8.1	1.00	9.0	0.80	8.1	1.00	9.0	0.20	7.2	0.01
<b>Right Bank</b>	7.0	0.00	9.0	0.00	9.0	0.00	10.0	0.00	9.0	0.00	9.0	0.00	9.0	0.00	10.0	0.00	9.0	0.00	10.0	0.00	8.0	0.00
<b>Feature Type</b> (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		riffle	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 11

### **Field Data Sheets For Recreational Use Stream Surveys**

#### **Data Sheet B-Site Characterization**

Date & Time: 10.10.07 4:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	Sexton rd crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

#### **Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:		
	0342061	4362429	12.8 meters		
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:		
	0341877	4362290	10.05 meters		

#### **Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
58	downstream, T1	59	upstream, T1	60	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
61	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

#### **Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				



WBID # 273  
Site # 11

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: hay fields				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	80	10		

**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 11

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>11</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0342061</u> UTM Y: <u>4362429</u> +/- <u>12.8</u> (meters) <b>11</b> UTM X: <u>0341877</u> UTM Y: <u>4362290</u> +/- <u>10.05</u> (meters)  Average Stream Width: <u>9</u> (meters)      Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>4:00</u>  Dissolved Oxygen: <u>11.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>22.7</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11		
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1	0.9	0.10	0.7	0.05	0.9	0.10	0.5	0.10	0.7	0.10	0.8	0.05	0.7	0.05	0.7	0.10	0.7	0.20	0.5	0.10	0.5	0.15
	2	1.8	0.20	1.4	0.01	1.8	0.20	1.0	0.30	1.4	0.50	1.6	0.20	1.4	0.20	1.4	0.25	1.4	0.65	1.0	0.30	1.0	0.40
	3	2.7	0.20	2.1	0.10	2.7	0.30	1.5	0.30	2.1	0.40	2.4	0.25	2.1	0.45	2.1	0.35	2.1	0.55	1.5	0.50	1.5	0.35
	4	3.6	0.30	2.8	0.00	3.6	0.45	2.0	0.40	2.8	0.40	3.2	0.30	2.8	0.55	2.8	0.30	2.8	0.55	2.0	0.40	2.0	0.25
	5	4.5	0.30	3.5	0.05	4.5	0.50	2.5	0.25	3.5	0.35	4.0	0.40	3.5	0.60	3.5	0.40	3.5	0.50	2.5	0.30	2.5	0.20
	6	5.4	0.30	4.2	0.25	5.4	0.35	3.0	0.20	4.2	0.30	4.8	0.50	4.2	0.65	4.2	0.45	4.2	0.45	3.0	0.20	3.0	0.15
	7	6.3	0.30	4.9	0.20	6.3	0.40	3.5	0.15	4.9	0.35	5.6	0.30	4.9	0.50	4.9	0.40	4.9	0.30	3.5	0.15	3.5	0.05
	8	7.2	0.25	5.6	0.10	7.2	0.30	4.0	0.05	5.6	0.20	6.4	0.10	5.6	0.25	5.6	0.30	5.6	0.20	4.0	0.10	4.0	0.01
	9	8.1	0.05	6.3	0.01	8.1	0.10	4.5	0.01	6.3	0.10	7.2	0.10	6.3	0.05	6.3	0.10	6.3	0.05	4.5	0.05	4.5	0.01
Right Bank	9.0	0.00	7.0	0.00	9.0	0.00	5.0	0.00	7.0	0.00	8.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	5.0	0.00	5.0	0.00	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 12

**Field Data Sheets For Recreational Use Stream Surveys**

**Data Sheet B-Site Characterization**

Date & Time: 10.10.07 5:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	In between site 11 and 13
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0341107	4360696	8.23 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0341189	4360773	6.4 meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
62	downstream, T1	63	upstream, T1	64	upstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
65	downstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 273  
Site # 12

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand 20	% Silt 40	% Mud/Clay 40	% Bedrock
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 12

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>12</u>  Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0341107</u> UTM Y: <u>4360696</u> +/- <u>8.23</u> (meters) <b>11</b> UTM X: <u>0341189</u> UTM Y: <u>4360073</u> +/- <u>6.4</u> (meters)  Average Stream Width: <u>8</u> (meters)      Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>5:00pm</u>  Dissolved Oxygen: <u>6.8</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>25.4</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.9	0.10	0.8	0.30	0.8	0.40	0.7	0.05	0.7	0.05	0.7	0.05	0.7	0.05	0.7	0.20	0.8	0.20	1.0	0.40	1.0	0.20
2	1.8	0.80	1.6	0.95	1.6	0.40	1.4	0.35	1.4	0.20	1.4	0.30	1.4	0.25	1.4	0.35	1.6	0.60	2.0	0.75	2.0	0.50
3	2.7	1.00	2.4	1.00	2.4	0.60	2.1	0.45	2.1	0.40	2.1	0.30	2.1	0.35	2.1	0.60	2.4	0.80	3.0	0.70	3.0	0.55
4	3.6	1.00	3.2	1.00	3.2	0.80	2.8	0.60	2.8	0.45	2.8	0.35	2.8	0.40	2.8	0.65	3.2	0.75	4.0	0.80	4.0	0.60
5	4.5	1.00	4.0	1.00	4.0	0.55	3.5	0.80	3.5	0.35	3.5	0.45	3.5	0.40	3.5	0.60	4.0	0.85	5.0	0.85	5.0	1.00
6	5.4	1.00	4.8	1.00	4.8	0.50	4.2	0.95	4.2	0.35	4.2	0.40	4.2	0.45	4.2	0.70	4.8	0.75	6.0	0.90	6.0	1.00
7	6.3	1.00	5.6	1.00	5.6	0.60	4.9	0.85	4.9	0.35	4.9	0.20	4.9	0.50	4.9	0.70	5.6	0.70	7.0	1.00	7.0	1.00
8	7.2	1.00	6.4	1.00	6.4	0.60	5.6	0.50	5.6	0.20	5.6	0.10	5.6	0.50	5.6	0.40	6.4	0.30	8.0	0.95	8.0	1.00
9	8.1	0.80	7.2	0.40	7.2	0.40	6.3	0.15	6.3	0.10	6.3	0.05	6.3	0.20	6.3	0.20	7.2	0.10	9.0	0.75	9.0	1.00
Right Bank	9.0	0.00	8.0	0.00	8.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	8.0	0.00	10.0	0.00	10.0	0.00
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

WBID # 273  
 Site # 13

**Field Data Sheets For Recreational Use Stream Surveys**

**Data Sheet B-Site Characterization**

Date & Time: 10.10.07 6:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown and Gilisa Gould	45 Rd crossing
Current Weather Conditions: clear	Facility Name: whispering pines MHP
Weather conditions for the past 10 days: 0.96 inches	Permit Number: MO0118991
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

Location Coordinates (Universal Transverse Mercator Projection, In Meters)			
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0339396	4360779	3.66 meters
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0339134	4360792	7.9 meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
66	upstream, T1	67	downstream, T1	68	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
69	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed:**

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				



WBID # 273  
Site # 13

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

**Substrate:**

% Cobble	% Gravel	% Sand	% Silt 50	% Mud/Clay 50	% Bedrock
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**Aquatic Vegetation:**

none
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**Water Characteristics:**

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 273  
Site # 13

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B - Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

none
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**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: gilisa gould Date of Survey: 10.10.07

Organization: SES, Inc. Position: field team leader

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

Waterbody ID: <u>273</u> Site #: <u>13</u>  Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0339396</u> UTM Y: <u>4360779</u> +/- <u>3.66</u> (meters) <b>11</b> UTM X: <u>0339134</u> UTM Y: <u>4360792</u> +/- <u>7.9</u> (meters)  Average Stream Width: <u>9</u> (meters)      Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Larissa Brown</u> and <u>Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>10.10.07</u> Time: <u>6:00pm</u>  Dissolved Oxygen: <u>12.3</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>23.1</u> (°C)
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### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.8	0.05	1.4	0.85	1.1	0.85	1.0	0.40	1.0	0.45	1.1	0.45	0.8	0.05	0.9	0.20	1.0	0.10	0.9	0.20	0.7	0.01
2	1.6	0.10	2.8	0.90	2.2	0.95	2.0	0.20	2.0	0.75	2.2	0.60	1.6	0.35	1.8	0.60	2.0	0.40	1.8	0.30	1.4	0.20
3	2.4	0.25	4.2	1.00	3.3	0.95	3.0	0.00	3.0	0.90	3.3	0.85	2.4	0.55	2.7	0.80	3.0	1.00	2.7	0.35	2.1	0.40
4	3.2	0.10	5.6	1.00	4.4	1.00	4.0	0.30	4.0	1.00	4.4	0.85	3.2	0.70	3.6	1.00	4.0	1.00	3.6	0.40	2.8	0.50
5	4.0	0.05	7.0	1.00	5.5	1.00	5.0	0.30	5.0	1.00	5.5	0.85	4.0	0.85	4.5	1.00	5.0	1.00	4.5	0.45	3.5	0.40
6	4.8	0.10	8.4	1.00	6.6	1.00	6.0	0.01	6.0	1.00	6.6	0.90	4.8	0.80	5.4	1.00	6.0	1.00	5.4	0.35	4.2	0.40
7	5.6	0.01	9.8	1.00	7.7	0.95	7.0	0.05	7.0	1.00	7.7	0.75	5.6	0.60	6.3	1.00	7.0	1.00	6.3	0.30	4.9	0.40
8	6.4	0.05	11.2	1.00	8.8	0.95	8.0	0.20	8.0	1.00	8.8	0.75	6.4	0.40	7.2	1.00	8.0	1.00	7.2	0.20	5.6	0.40
9	7.2	0.01	12.6	1.00	9.9	0.90	9.0	0.05	9.0	0.90	9.9	0.55	7.2	0.20	8.1	1.00	9.0	0.70	8.1	0.15	6.3	0.40
Right Bank	8.0	0.00	14.0	0.00	11.0	0.00	10.0	0.00	10.0	0.00	11.0	0.00	8.0	0.00	9.0	0.00	10.0	0.00	9.0	0.00	7.0	0.00
Feature Type (rifle, run, or pool)	rifle		pool		pool		rifle		pool		pool		pool		pool		pool		pool		pool	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould      Date: 11.09.07

**WBID# 0273**



**Site# 1 Photo ID# 18, Downstream T-1**



**Site# 1 Photo ID# 19, Upstream T-1**



**Site# 1 Photo ID# 20, Downstream T-11**



**Site# 1 Photo ID# 21, Upstream T-11**



**WBID# 0273**



**Site# 2 Photo ID# 22, Upstream**



**Site# 2 Photo ID# 23, Downstream**



**Site# 2 Photo ID# 24, Downstream**



**Site# 2 Photo ID# 25, Upstream**



**WBID# 0273**



**Site# 3 Photo ID# 38, Upstream**



**Site# 3 Photo ID# 39, Downstream**



**Site# 3 Photo ID# 40, Downstream**



**Site# 3 Photo ID# 41, Upstream**



**WBID# 0273**



**Site# 4 Photo ID# 26, Downstream T-1**



**Site# 4 Photo ID# 27, Upstream T-1**



**Site# 4 Photo ID# 28, Downstream T-11**



**Site# 4 Photo ID# 29, Upstream T-11**



**WBID# 0273**



**Site# 5 Photo ID# 30, Downstream**



**Site# 5 Photo ID# 31, Upstream**



**Site# 5 Photo ID# 32, Downstream**



**Site# 5 Photo ID# 33, Upstream**



**WBID# 0273**



**Site# 6 Photo ID# 34, Downstream T-1**



**Site# 6 Photo ID# 35, Upstream T-1**



**Site# 6 Photo ID# 36, Downstream T-11**



**Site# 6 Photo ID# 37, Upstream T-11**



**WBID# 0273**



**Site# 7 Photo ID# 42, Downstream T-1**



**Site# 7 Photo ID# 43, Upstream T-1**



**Site# 7 Photo ID# 44, Downstream T-11**



**Site# 7 Photo ID# 45, Upstream T-11**



**WBID# 0273**



**Site# 8 Photo ID# 46, Downstream T-1**



**Site# 8 Photo ID# 47, Upstream T-1**



**Site# 8 Photo ID# 48, Downstream T-11**



**Site# 8 Photo ID# 49, Upstream T-11**



**WBID# 0273**



**Site# 9 Photo ID# 50, Downstream T-1**



**Site# 9 Photo ID# 51, Upstream T-1**



**Site# 9 Photo ID# 52, Downstream T-11**



**Site# 9 Photo ID# 53, Upstream T-11**



**WBID# 0273**



**Site# 10 Photo ID# 54, Upstream T-11**



**Site# 10 Photo ID# 55, Downstream T-11**



**Site# 10 Photo ID# 56, Downstream T-1**



**Site# 10 Photo ID# 57, Upstream T-1**



**WBID# 0273**



**Site# 11 Photo ID# 58, Downstream T-1**



**Site# 11 Photo ID# 59, Upstream T-1**



**Site# 11 Photo ID# 60, Downstream T-11**



**Site# 11 Photo ID# 61, Upstream T-11**



**WBID# 0273**



**Site# 12 Photo ID# 62, Downstream T-1**



**Site# 12 Photo ID# 63, Upstream T-1**



**Site# 12 Photo ID# 64, Downstream T-11**



**Site# 12 Photo ID# 65, Upstream T-11**